

Meeting of the WMO SDS-WAS Regional Steering Group for Northern Africa, Middle East and Europe

Teleconference, 20 June 2017 8 UTC (10 CET); duration 2 hours

Attendees: Slobodan Nickovic, Enric Terradellas, Sara Basart, Ana Vukovic, Lucia Mona, Emilio Cuevas, Carlos Pérez García-Pando, Saviz Sehat, Goran Pejanovic

Agenda:

- Welcome new members
- White paper on dust observation
- Cooperation AEMET-IRIMO on dust observation
- SDS-WAS at WMO
- WMO Airborne Dust Bulletin
- EUMETSAT RGB-dust product for the Middle East
- New developments at the Barcelona Dust Forecast Center (RSMC-ASDF)
- Status with the Tehran project
- Workshop and training in Turkey
- Cooperation with other UN bodies and programmes
- Reporting on dust forecasting in Algeria
- Proposal for a new COST Action
- Dust conferences in 2017 and 2018
- AOB

Minutes:

- **Welcome new members**

Last month, WMO approved new incorporations in the Regional Steering Group (RSG): Carlos Pérez García-Pando (he is the new representative of the Barcelona Supercomputing Center, BSC), Saviz Sehat (Islamic Republic of Iran Meteorological Organization, IRIMO) and Mustafa COŞKUN (Turkish State Meteorological Service). WMO Secretariat is requested to send a thanks letter to Prof Baldasano

- **White paper on dust observation**

This work raises from the last meeting of the SDS-WAS Steering Committee held last September and is led by Lucia. The working group includes representatives of the three SDS-WAS regional nodes and other experts. The objective is to provide an overview of the current status of aerosol-dust measurements and potential gaps that should be addressed in the future. The first deadline to send contributions to Lucia is end-June/beginning of July

and the first draft could be ready by end-August/September.

- **Cooperation AEMET-IRIMO on dust observation**

Emilio informs that the AEMET-IRIMO collaboration started about one year ago. Given the high concentration of anthropogenic and natural aerosol in Iran and its consequences on the air quality levels, IRIMO is starting to build an observation network to help developing a strategy to mitigate its adverse effects. This AEMET-IRIMO collaboration started to perform basic and systematic aerosol measurements in Tehran metropolitan area. Now, Saviz is visiting Izaña during a few weeks. The objective of this visit is to learn the different aerosol measurement techniques (photometry, in-situ, ceilometers, lidars...) and to establish a roadmap for the future.

Slobodan asks for the level of collaboration between IRIMO and the Iranian Research Council and the possibility to get access to the national air quality network. Saviz informs that unfortunately, nowadays, this information is not shared between different government agencies of Iran. Saviz thinks that the interest expressed by IRIMO to host a West Asian SDS-WAS Regional Center could lead to establish a centralized system for data exchange. There are 9 air quality stations whose data, after negotiations with the Iranian environmental agency, could be shared in the framework of SDS-WAS.

- **SDS-WAS at WMO**

Enric explains that WMO released a new webpage on sand and dust storm. Now, there are internal and external websites for SDS-WAS. The public webpage is intended to disseminate all potential SDS information to users. During spring it was also released a video about SDS and its impacts on society, as well as to publicize the activities of the three SDS-WAS regional nodes. The video is posted on youtube. Finally, a side event during GAW Symposium was organized by AEMET. The side event focused on available dust observations and the important gaps over North Africa and the Middle East in the current observational networks managed by GAW.

- **WMO Airborne Dust Bulletin**

Next October, Enric will be replaced by Xiaoye Zhang (China Meteorological Administration) as chair of the SDS-WAS Steering committee. Xiaoye will be on charge of the second issue of the SDS-WAS bulletin. It is expected to be released by February-March 2018 and will include a summary of the airborne dust distribution in 2017, a summary of the activities of the three regional nodes and a couple of study cases (hopefully one in North Africa). Slobodan suggests to include information about ongoing experimental campaigns or other projects of interest. Enric expresses the importance of the contributions of the different regional nodes to this SDS-WAS bulletin.

- **EUMETSAT RGB-dust product for the Middle East**

The EUMETSAT RGB-Dust product for the Middle East is available in the SDS-WAS website (<https://sds-was.aemet.es/forecast-products/dust-observations/msg-eumetsat-middle-east>). This product is available since METEOSAT-8 was re-located to a longitude of 41.5°.

Other products of interest are:

- Dust Index (netcdf data)
- Dust flag within the Geostationary Nowcasting Cloudmask (hdf data)
- Dust RGB (JPG)
- Saharan Dust 2D map (JPG/Geotiff)

Enric emphasizes that it is important to disseminate this information, because many countries are not aware about this new product centered over the Middle East.

Slobodan asks for the EUMETSAT contact person that can give us an overview of the available products on dust such as ice nucleation, water vapour, temperature of the cloud tops... Enric will try to identify someone.

- **New developments at the Barcelona Dust Forecast Center (RSMC-ASDF)**

Carlos introduces the strategic research lines at BSC for dust forecasts. The new model developments oriented to short-term forecast are data assimilation, probabilistic products based on ensemble prediction and high-resolution. Data assimilation will be probably operational the next year. Also, BSC is coordinating a project that has as main objective to generate dust tailored products based on a high-resolution dust reanalysis. The results of this project will be valuable for the SDS-WAS community. Finally, it is under discussion the possibility to provide 4-7 day forecasts based on global runs of the NMMB-MONARCH model or involving ICAP.

The synergies in BSC with experts in Climate Prediction can give us the opportunity to start a new research line about dust seasonal forecasting. This is a very new topic and can be very important for the different socio-economic sectors affected by dust.

Funding is needed to conduct all these activities. At the moment, the Regional Center is supported by the AXA research fund and the agreement with AEMET. BSC and AEMET expressed their intention to increase the resources to achieve more ambitious goals. Once the new BSC and AEMET agreement will be formalized, a strategic plan will be internally discussed and then shared with the RSG.

The websites of the Regional Center and the Barcelona dust forecast Center (BDFC) will be upgraded with new technology and the contents revised trying to include new tailored products. One of the questions that Carlos raises during his intervention is the distinction between BDFC (Operations) and SDS-WAS (Research). The existence of two websites sometimes is not well understood by the general public and makes maintenance more difficult. Slobodan explains that the two centers depend on different commissions in WMO and the commitments and/or products are specific for each center. For that reason, they should be kept separate.

Carlos also explains the new version of the chemistry-aerosol online multi-scale NMMB-MONARCH model. It gives us the opportunity to deepen into the dust-aerosol-chemistry interactions. For the next year, it is planned to provide operational atmospheric composition / air quality forecasts over NAMEE domain at a 10-km horizontal resolution. As Slobodan highlights this is something that will need a lot of computational resources. Carlos explains that after the set-up of the new MareNostrum4 supercomputer, BSC will perform some experiments to optimize the model configuration.

- **Status with the Tehran project**

This study case of Tehran started in 2014. None of the models in the SDS-WAS model intercomparison predicted the haboob over Tehran. The study will be based on the model runs of the Belgrade Institute and the National Observatory of Athens (NOA) and observations from two airports. Ana is waiting for PM10 observations in Tehran and BSC model outputs (Sara says they won't be ready before October). Ana informs about the commitment to deliver a report and to prepare a scientific paper on this study case that highlights the benefits of the high-resolution to simulate these intense and local dust events.

- **Workshop and training in Turkey**

Enric informs on the International Workshop on Middle East (regional) Dust Sources and their Impacts that will be held in Istanbul 24-27 October (<http://www.cem.gov.tr/erozyon/MainPage.aspx?sflang=en>). The deadline for abstract submission is 28 July. After the workshop will be the 6th SDS-WAS training course. It will be a 2.5 day training with the participation of AEMET, BSC, ECMWF, EUMETSAT and the Turkish State Meteorological Service.

- **Cooperation with other UN bodies and programmes**

Enric informs about the 3rd meeting of the WHO/WMO Global Platform on air quality and health held in Madrid in March 2017. The objective of the meeting was to review the ongoing progress, to identify gaps and propose next steps

and further development needed for ensuring high quality estimates of human exposure to air pollution and related burden of disease. In particular, there was a session on the health effects of desert dust. A point that was highlighted was the need to distinguish between acute effects during severe episodes and long-term effects after prolonged exposure in areas with high frequency of dust events. WHO commissioned systematic review of the health effects of desert dust. Xavier Querol and Aureli Tobias, from the Spanish Scientific Research Council are in charge of it.

The most important outcome of the International Workshop on Sand and Dust Storms held in Istanbul 24-27 October 2016 was the intention to write a Technical Guide on SDS with participation of several UN agencies. Enric and Slobodan will participate in the chapter on early warning, dust monitoring and forecasting. The UNCCD coordinator has rejected the first draft because it does not fit with the objective of the document.

The International Conference on Combating Sand and Dust Storms will be held in Tehran in July 2017, hosted by the government of the Islamic Republic of Iran, with the cooperation of relevant UN entities. The Conference will consist of a Ministerial Dialogue and plenary and thematic sessions. Enric and Ana will participate in it.

- **Reporting on dust forecasting in Algeria**

Slobodan talks about Abdenour Ambar, an air quality modeler in Algeria that is a potential contributor to the SDS-WAS Regional Node.

- **Proposal for a new COST Action**

Sara informs that it is expected that the COST Action committee will communicate the final decision about the submitted InDust proposal in June 2017.

- **Dust conferences in 2017 and 2018**

Enric informs about the upcoming dust meetings/events that are continuously updated in the SDS-WAS website (<https://sds-was.aemet.es/events>).

- **AOB**

Slobodan informs that they are ready to provide operationally a new daily prediction of ice nuclei concentration as a consequence of the dust presence as well as dust extinction coefficient fields. The product will be published on the SDS-WAS NAMEE website. Boyan (SEEVCCC) will contact Sara (BSC) to establish an exchange protocol.

